It is difficult to walk through the woods these days and not be aware of the impact that invasive alien forest pests have had. The beech trees are all dying, you haven’t seen a live butternut in years, most of the elm trees in the area have long since died, gypsy moths are rampant and what used to be a healthy understory of shade tolerant trees and shrubs in your woodlot has been crowded out by buckthorn and dog-strangling vine. You find yourself wondering if there will be any forests left for future generations to enjoy.

Over the past century, Canadian forests and trees have been ravaged by a seemingly endless succession of forest pests, for the most part introduced from other countries. Organisms originating elsewhere, and having economic and or environmental impact in a new area, are referred to as Invasive Alien Species.

In the early 1900s, chestnut blight, a fungal disease originating in eastern Asia was accidentally introduced on ornamental nursery stock and within a few years had eliminated most of the estimated billions of chestnut trees in eastern North America. Despite massive efforts to contain the disease little could be done to prevent it from wiping out what had been to that point one of the most common and important trees in eastern North America, including southern Ontario (where, in the early 1900s as much as 25% of the forest was chestnut). Today, despite heroic efforts to save it, the American chestnut teeters on the verge of extinction in North America with most of its genetic diversity lost forever. It is unlikely to ever recover.

There is a lesson to be learned here. Despite the considerable technological advances over the past 100 years in research, early detection, risk analysis and control, it is unlikely that chestnut blight could have been eradicated or controlled any more effectively if had been introduced last year, rather than early last century. Victories over invasive alien pests are rare; at best their spread can be slowed down or contained and the damage mitigated through quarantine or suppression actions. Since most invasive forest pests were introduced and spread as the result of human activities, the best

(Invasive Alien Forest Pests continued on page 3)
Volunteer Info Night #3 – Tuesday Oct 7/08

12 volunteers and 4 staff attended the session in the boardroom.

Items covered:

1. Presentation of Volunteer Grant from Bell Canada (Employee Giving Program) by Barbara Parke: This is the 2nd year for this grant from Bell Canada for The Arboretum. The $500 will be designated, along with last year's grant, to purchasing perennials for the Italian Garden (spring 2009).

2. 'What's Happening at The Arb': presentation by Sean Fox. Some of the most interesting pictures were the American hazel tree, the Siberian spindle tree, the Golden Rain tree (its fruit should be showing during the winter months), the shiny Sumac, and a cute Wood frog. It was another fabulous slide presentation by Sean.

3. On Nature article: An article will appear in On Nature magazine (winter issue) re: The Arboretum's Gene Bank. Our Gene bank is a depository/seed source for many rare trees in Ontario. Seeds are just coming into production for many varieties. Seeds are produced for Conservation areas, other areas where these trees need to be re-introduced. Some examples of the trees/seeds pictured in Sean's presentation are Cherry Birch, Cucumber tree, and thorned Honey Locust. Our Zavitz pines, which were planted in 1907, were heavily laden with cones this year. Approximately 30 - 50 seeds will be produced from each cone. Some of the Zavitz pines will be grown for our Memorial Tree Forest and some for an upcoming Plant Sale.

4. Magnolia Disk Course: The Magnolia Disk Course sign is now up... Frisbee Golf, for those who don't know about this.

5. Organic Farm Plot: This is located adjacent to College, west of the Service Road, at the western boundary of The Arboretum (surrounded by Norway spruce). The plot is ready for organic vegetable planting next year.

6. Children's Theatre Fundraiser by Lona Buck: Currently Lona and Bev Healy complete all activities associated with this fund raiser. Two different shows are put on each year, in November and February. Lona made a personal plea for help for all aspects of this fundraiser: donations and sponsorship ($1500/show required), preparing tickets, posters and fliers, set-up (and put away) chairs in Auditorium, taking tickets on night of show, reviewing and booking shows for the next season, choosing school and arranging bus transportation for free matinee performance. Lona would like to have a new team (2 - 3) volunteers in place for February's performance (to organize/run this fundraiser with minimal assistance from Bev Healy, who takes ticket sales). Additional volunteer help is required on night of shows to set-up and put away chairs and to take tickets from attendees. This fundraiser is in jeopardy of being cancelled if no new volunteer team in place by February. Note: At current ticket price of $5.00 The Arboretum profit is approx. $2,500, with new ticket price (2009) of $8.00 our profit will be approx. $4,000. If you are interested in assisting with this fundraiser... PLEASE contact Barbara or Lona.

7. Thanks to all Auxiliary Members: Alan thanked all volunteers for their dedicated effort throughout the year... in the various volunteer groups/activities/fundraiser events.

8. Tree Atlas Project: Alan gave an update on the project. Currently at a good stage of this project. For the data entry and review stage volunteers collected the data, students read the volunteer's input cards and then input into a database. Maps were printed for each species and strange occurrences (or outliers) were identified. Additional surveys were done for Georgian Bay, Algonquin and Niagara areas. Ivan Lee was hired to access the revised database/print new maps for the Tree Atlas. For each species, a species account must be written showing the distribution and abundance of that species (reflects period from 1995 - 2007). Additional funds and time are required over the next year for publication (hopefully by fall 2009). For a copy of the current status report please

Coordinator’s Corner continued on page 6
strategy for governments and their partners is to keep them out through effective regulations and public education.

In addition to invasive alien pests (there is a very long list), Ontario forests are routinely attacked by native (endemic) pests such as fall webworm, tent caterpillar, bark beetles and numerous species of insects, diseases and ‘weeds’. While many of our native pest species can kill trees and cause significant damage to forests they are, for the most part important to the overall forest ecosystem and play a major role in forest health, natural succession and renewal. The main difference between native and invasive pests is that our trees evolved with native organisms and for the most part can tolerate their attacks. Yes, many native insects have periodic outbreaks where they can kill trees, especially those stressed by drought and other environmental or pest issues but these are generally cyclical, and collapse within a few years. Endemic pest species are usually kept in check by a host of naturally occurring biological control organisms such as predators, parasites and diseases. The good news is that over time, biological control organisms already present here often adapt to invasive species and the introduced pests ultimately lose their ‘edge’. For this reason, human intervention in the early stages of a pest invasion can buy valuable time for Mother Nature time to catch up. Even where it is impossible to eradicate a new pest, containing or slowing its spread can be highly beneficial to its long-term management.

The list of invasive pests threatening Ontario forests is far too long to include here but some of the more serious ones are insects such as the emerald ash borer, Asian long-horned beetle, and hemlock woolly adelgid (an aphid-like organism native to eastern Asia which kills hemlocks), diseases such as butternut canker, beech-bark disease, and possibly sudden oak death, and introduced plants such as the European and glossy buckthorns, dog-strangling vine (swallow-wort) and garlic mustard. Woodlot owners and others interested in preserving our forests should familiarize themselves with what these pests look like, and, in the case of the insects listed above, notify government authorities if these are suspected in your area. These insects have been designated as quarantine pests and are regulated under the Canadian Plant Protection Act, administered by the Canadian Food Inspection Agency (CFIA). Early detection in an area can be very important in slowing their spread or even eradicating them. Further information can be obtained from the CFIA at www.inspection.gc.ca

While little can be done to curtail the spread of butternut canker and beech-bark disease, provincial authorities are interested in locating and preserving large butternuts as a future source of disease resistant trees. Butternuts are in serious decline and have become alarmingly rare in recent years. More information can be found on the Ontario Ministry of Natural Resources site at: www.mnr.gov.on.ca

Unfortunately, buckthorn and garlic mustard are pervasive throughout much of the settled parts of Ontario and can be extremely damaging to woodlots once established. Control is possible through physical removal and the selective use of registered herbicides. Dog-strangling vine, also known as swallow-wort is still fairly localized in much of southern Ontario and should be eradicated from areas where it is not generally established. This is a very destructive, albeit attractive plant that can be almost impossible to eradicate in an area once it becomes well established.

Protecting a country from foreign invaders is serious business. In Canada, the CFIA is the lead agency with respect to preventing the entry of invasive alien plants and plant pests but works closely with other federal, municipal and provincial departments. Under the authority of the Plant Protection Act and Regulations, Canada strictly regulates the import of agricultural and forestry products such as logs and wood packaging that may act as vectors or pathways for pest introduction. The CFIA also has the authority to undertake control or eradication actions for quarantine pests already present here and in recent years has waged campaigns against the Asian long-horned beetle (ALHB) in the Toronto area and the emerald ash borer (EAB) - considered by many experts to be the worst forest insect pest to ever be introduced to North America. While the Canadian eradication programme for ALHB is going well, EAB has proven to be a formidable foe and has been spread to many new areas through human activities such as the movement of ash firewood and nursery stock. It threatens an estimated 1 billion ash trees in Ontario alone and will have an enormous environmental and economic impact on our forests as it continues to spread.

“This book was on top of the list as the best selling book at The Book Shelf this fall”
As the seasons change, for the past ten years I have had the pleasure of walking along Arboretum trails. I am amazed at times at how unobservant I have been as it seems each year I discover a tree or shrub in bloom that has seemingly gone unnoticed by me previously! For example this past year in the World of Trees, I became aware of the beautiful Fringe Tree with its feathery snow white blossoms that cover the tree in late spring. However, there is one tree to which I have paid particular attention as it has gradually grown larger and larger with each passing year. It is of the Euonymus family and commonly known as Burning Bushes or Spindle Trees. If I am correct, the spindle bush or tree that I am most familiar with is the European Spindle Bush (Euonymus europaea), which borders the path between the Lilac Hospice Garden and Wild Goose Woods.

Due to its very small, insignificant greenish-white flowers that appear in late spring, I cannot say that it is my favourite springtime bush but it does become a favourite each autumn. This is due to the clusters of small, deep rosy pink fruit, which opens to reveal orange seeds that appear in the autumn. To me, this is nature working at its best by creating a beautiful palette of contrasting colours.

According to Henry Kock in *Growing Trees from Seed*, there are “some 200 species of Euonymus found throughout the world with the highest concentration in Asia”. He further states that the evergreen-leaved mound-forming exotic *Euonymus fortunei* is well known. However he states that the native, deciduous species is “virtually unrecognized”. It is these bushes, which not only produce beautiful seeds but have wonderful orange-red leaves in the fall that are growing on the Arboretum grounds and which can be found in the World of Trees and elsewhere.

I first encountered the Siberian Spindle Tree, *Euonymus sacchalinensis* at the 2000 or 2001 plant sale, where a particularly gorgeous version sold at the silent auction for more than six hundred dollars. The catalogue description of the tree indicated that the seed for this tree had been collected about 1977 in Sarnia. It was described as an “amazing yet virtually unheard of species, one of the loveliest of small trees”. No wonder Henry thought so highly of this prized specimen. In the hour prior to the sale that year, I will never forget an image of a beaming Henry with his long dark beard and long stems of purplish red and orange fruit dangling from his ear lobes.

At last fall’s plant sale, I purchased a small spindle tree. When I gave it to my daughter for her new Stratford garden, I suggested that she needs to live in that home longer than in the previous one since these handsome trees are slow growing. To learn more about spindle trees and some of the other trees growing in the Arboretum, I recommend reading Henry’s wonderful book “*Growing Trees from Seed*”.

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**Spindle Tree**

By Marg Gillies

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**Spring 2009 Issue of Arb Aux**

Planned Publication Date: Week of May 10, 2009

Submission Deadline for articles, pictures: Wednesday, April 30, 2009
**Arboretum Auxiliary Plant Sale**
**Saturday September 13, 2008**
**By Barbara Parke**

Wow, what a turnout for this fabulous fundraiser for The Arboretum. Well over 45 volunteers, Arboretum staff and Master Gardeners turned out to offer their services and expertise during our annual Plant Sale. Hundreds of customers perused the plant sale tables, and woodies area for that special herbaceous plant or unusual tree or shrub for their home garden. Many of the colourful fall blooming plants were quickly snatched up.

All and all it was a very successful Arboretum Auxiliary Plant Sale. Net revenue for 2008 was $30,195.89, however, this excludes any expense for purchase of plants from van Hof & Blokker for the 2009 Plant Sale. In 2007, our Net Revenue was $25,394.75, but this included an expense of $4,601.50 for purchase of some plants for the 2008 Plant Sale.

Also note that due to safety reasons one Arboretum greenhouse will be closed and off limits for any Auxiliary activities associated with our Plant Sale. Due to the closure of this greenhouse we will not be purchasing plants from van Hof & Blokker for the 2009 Plant Sale. Therefore our 2009 Plant Sale will not be of the same magnitude as in previous years. The Arboretum’s Master Plan/Operational Plan does identify the need for a new greenhouse, but capital funding is required. Current estimate for a new greenhouse is approximately $250,000.

A new Plant Sale steering/planning committee has been set up to organize/plan for the 2009 Plant Sale. Members of this committee are: Monica Bibby, Marg Gillies, Mary Grad, Pat Wilcox and Ted Vanderveen. Their first meeting was held on December 11, 2008… to establish time-lines and initial plans for the 2009 Auxiliary Plant Sale. Stay tuned.

Thanks again to all volunteers, staff and Master Gardeners who eagerly donated their time and expertise for this fundraiser… and for purchasing plants/trees/shrubs/vines for their own gardens. See you again next year!

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**Tales of a Trekker**

Hopefully some inspiration from our budding or experienced hikers. How about submitting an article about an interesting area to hike…or an anecdotal account of a recent hike you’ve taken. All tales are most appreciated and will be published in upcoming issues of the Arb Aux.

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**MY FAVOURITE PLANT….NOT SO MUCH A PLANT, BUT A GENUS.**
**By Janet Dalgleish**

Epimedium was unknown to me till we lived in France and I read an article about this treasure of the dry shade garden. Dry shade I had, so I searched, purchased, planted ...and the following spring, I fell in love with my first acquisition, Epimedium × warleyense, as arching red stems of delicate orange bell-like flowers emerged from among the old foliage, followed by pairs of heart shaped leaves unfurling with distinctive veining and tinged with red.

Returning to Canada, an early Plant Sale purchase was E. versicolor 'Sulphureum' which was tucked into a shady spot by our front steps. It is now well established, producing a profusion of nodding yellow flowers each spring, and the wiry stems of mature leathery leaves provide colour all winter when not buried by snow.

E. youngianum 'Niveum' was planted in another shady spot and I love its lovely little pure white flowers which brighten a rather dull corner in May.

I have learnt that the old foliage should be sheared right back at the end of winter to give full value to the emerging flowers, but otherwise, these attractive ground-cover plants are very undemanding and will tolerate most shady conditions. Ensure enough moisture till a good root system is established, but roots will rot if waterlogged. Although Epimedium are rhizomatous, they are well-behaved, without the thug-like tendencies of some other spreading ground-covers. In fact, there’s nothing but praise for this delightful genus, a member of the Berberidaceae family, whose common names are Barrenwort (because flower stems emerge before the leaves) or Bishop’s Hat (because of the leaf shape).
contact Alan.

9. Q&A Session:

a) Frisbee Golf: (Located in the Rotary Tree Grove and Maple collection) No fee currently. Well used facility. Participants are respectful of site. One element of the Arboretum Master Plan was to increase the interaction between The Arboretum and other University departments, to expand exposure to The Arboretum. Interaction with Department of Athletics on this initiative. There is a possibility of a Frisbee Golf tournaments as a fund raiser.

b) Memorial Tree Donations: Donation level now $50 from $40. All trees were donated for this year's Memorial Tree Service and students/volunteers planted trees. Approx. 2500 - 2800 people were at the 2008 service (our 20th yr of this memorial dedication service). Those donating/attending have an emotional attachment to The Arboretum. See web site or brochures for additional details regarding this program. Suggestion was made to incorporate walks after the Memorial service. Further evaluation/review of suggestion required.

c) Initiatives with other Departments: A database of our dedication trees/benches is being established. Existing information is contained in a binder. Currently working with Biodiversity group/Integrated Biology Department on this database. Note: For a dedication tree ($2,000) half the funds are for an endowment, half for tree maintenance. Eventually plan to have a computer in foyer so visitors can access information to find a specific dedication tree/bench.

Thanks again to all Auxiliary members for your much appreciated volunteer effort!

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Quotes that appeared in the May edition of Canadian Gardening Magazine.

"In the spring, at the end of the day, you should smell like dirt."

Margaret Atwood

Where flowers bloom, so does hope."

Lady Bird Johnson

The true meaning of life is to plant trees, under whose shade you do not expect to sit.

Nelson Henderson

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Toronto Gardens Tour June 19 & 20, 2009

Norma Fear


Accommodation with buffet breakfast at the Delta Chelsea, Toronto—Single: $439.00 Double: $369.00 Triple: $349.00. Rates are per person.

Optional: "Sound of Music" at the Princess of Wales Theatre, add $99.00.

Included in Pricing: Deluxe motor coach transportation with tour host, 1 night accommodation, breakfast, tea at Casa Loma, all admissions.

Contact Clare Newson Travel, if interested.
Volunteer Groups at The Arboretum

The various volunteers group include the following:

**Grounds:** Sean Fox supervises this group of volunteers who assist with the maintenance of The Arboretum grounds and formal woody areas. This group prunes and weeds, but also tackles some of the bigger projects like brush removal, digging, edging and chipping of beds. Tree planting and other miscellaneous functions are included in the repertoire of this group. The Group meets **Wednesday mornings, 9:00 – 12:00 noon, April to early December**, plus the odd winter task.

**Gardening:** Under the supervision of The Arboretum’s Horticultural Technician, Lig Taurins, this group of volunteers focuses on the maintenance (weeding, transplanting, general maintenance/clean-up) of the formal gardens within The Arboretum (English, Italian and Japanese gardens, Hospice Lilac garden, The Park in the Garden, and the Gosling Wildlife Gardens). The Group meets **Tuesday mornings 9:00 – 12:00 noon, mid April to early November**.

**Docents (Tour Guides):** Auxiliary members work under the supervision of Chris Earley, our Interpretive Biologist/Education Coordinator. These volunteers conduct organized tours of The Arboretum grounds. Extensive interpretive training is provided to these group tour leaders. The Group meets **1st Monday of month @ 2:00 pm for approximately 1.5 hrs, all year excluding July and August**.

**Plant Sale:** Auxiliary members work under the direction of both Sean Fox and Lig Taurins. This group grows, pots, cares for, labels and organizes the many trees, shrubs, vines, herbaceous perennials and limited edition plants which are sold at The Arboretum Auxiliary’s Annual Plant Sale, held the 2nd Saturday of September each year. Many volunteers from the other groups assist with various functions on the actual day of the sale to make this annual event such a resounding success. The Group meets **Monday mornings & Thursday mornings, 9:00 – 12:00 noon, mid March to actual Plant Sale date, 2nd Saturday in September each year**.

Additional information about volunteer opportunities at The Arboretum can be found at [http://www.uoguelph.ca/arboretum/ArbOverview/Volunteer1.htm](http://www.uoguelph.ca/arboretum/ArbOverview/Volunteer1.htm) or by contacting Barbara Parke at 519 824 4120 ext. 53615

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**Upcoming Arboretum Workshops**

- **Night Stalker’s Owl Prowl:** Friday January 30, or Saturday, January 31, or Friday, February 6, or Saturday, February 7, 2009 7:00 pm. – 8:30 pm.
- **The Art and Practice of Pruning:** Tuesday, March 17, or Wednesday, March 18, 2009 1:00 pm. – 4:30 pm.
- **Growing Perennials from Seed:** Thursday March 26, 2009 9:00 am. – 4:00 pm.
- **An Ecological Vegetable Garden:** Friday March 27, 2009 9:00 am. – 4:00 pm.

Please refer to: [http://www.uoguelph.ca/arboretum/ProgsWrkshps/ProWrkshp1.htm](http://www.uoguelph.ca/arboretum/ProgsWrkshps/ProWrkshp1.htm)

for additional details.

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**Arboretum Booklets coming soon**

- **Wildflowers**
- **Mammals**

Cost $5.00 plus tax
Dog Wood

Spindle Bush

Spindle Tree in November

Rosehips

Sumac

Tulip Tree